

REMARKS

Claims 13-32 are presently in the application. The above amendments are being made to place the application in better condition for examination.

Reconsideration of the rejection of claims 13, 14, 17, 20-22, 24, and 28-32 under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 4,858,439 to Sawada et al is respectfully requested.

Claim 13 is directed to hydraulic coupler for a fuel injection valve having a first booster piston having the capacity to be coupled to a piezoelectric actuator, an additional booster piston having the capacity to be coupled to a nozzle needle, a lifetime filling of a hydraulic fluid between the two booster pistons to hydraulically couple the two booster pistons to each other,

one end of one of the additional booster piston being guided in an end of the first booster piston,

a booster chamber situated between the end of the additional booster piston and the first booster piston, and

an additional enclosure for hydraulic fluid, the additional enclosure being sealed shut by means of a spring/sealing element and communicating with said booster chamber.

Sawada et al is relied upon for disclosing a hydraulic coupler for a fuel injector valve comprising a booster piston (6), a piezoelectric actuator (23), an “additional” booster piston (1), a nozzle needle (24), a booster chamber (10), an enclosure (13), a spring sealing element (11),

Appl. No. 10/565,072
Amdt. dated August 18, 2008
Reply to Office action of April 16, 2008

a connecting conduit (3), a through hole (3), a sealing element (12), a stationary housing part, and an injector valve (8).

Applicant asserts that invention differs from the Sawada. Paragraphs [0029] and [0030] of the application describe that during the operation of the hydraulic coupler hydraulic oil may be pressed in the additional enclosure 15. By doing that the sealing element 17 will be deformed and pressure may be generated in the booster chamber 14 if that deformation and the volume of the enclosure is reduced.

Furthermore, the additional booster piston 7 of the invention is disposed in the end of the first booster piston 6, whereas in Sawada et al, the first booster piston 6 is disposed in the end of the additional piston 1. This difference is clearly recited in claim 13. Additionally, the connecting conduit 3 of Sawada et al is disposed in the “additional” booster piston 1 rather than in the booster piston 6 as in the current claim 14. Accordingly, withdrawal of the rejection under 102(b) is respectfully requested.

Reconsideration of the rejection of claims 15, 16, 18, 19, and 23 under 35 U.S.C. 103(a) as being unpatentable over Sawada et al in view of U.S. Pat. No. 6,581,900 to Stoecklein is respectfully requested.

Sawada et al is relied upon as described above, but lacks a throttle. Stoecklein teaches a valve structure having a rounded throttle (30) in a conduit (19).

Regardless of whether the combination of the reference with Sawada et al is proper, Applicant believes the currently amended claims are distinguished over the references when taken alone or when combined, due to the arrangement of the a first booster piston 6, the

Appl. No. 10/565,072
Amdt. dated August 18, 2008
Reply to Office action of April 16, 2008

additional booster piston 7 being guided in an end of the first booster piston, the booster chamber 14, and the additional enclosure 15 for hydraulic fluid communicating with the booster chamber. None of the reference taken alone or when combined disclose the arrangement recited in claim 14, from which the remaining claims all depend. Therefore, it is respectfully requested that the rejection under 35 USC 103(a) be withdrawn.

Reconsideration of the rejection of claims 25-27 under 35 U.S.C. 103(a) as being unpatentable over Sawada et al in view of U.S. Pat. No. 7,066,399 to Hohl is respectfully requested.

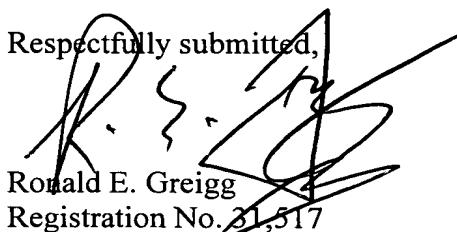
Sawada et al is relied upon as described above, but lacks a spring between the piston and the stationary housing part. Hohl teaches a spring (54) between a piston (42, 40) and a stationary housing part (51, 55).

Regardless of whether the combination of the reference with Sawada et al is proper, Applicant believes the currently amended claims are distinguished over the references when taken alone or when combined, due to the arrangement of the a first booster piston 6, the additional booster piston 7 being guided in an end of the first booster piston, the booster chamber 14, and the additional enclosure 15 for hydraulic fluid communicating with the booster chamber. None of the reference taken alone or when combined disclose the arrangement recited in claim 14, from which the remaining claims all depend. Therefore, it is respectfully requested that the rejection under 35 USC 103(a) be withdrawn.

Appl. No. 10/565,072
Amdt. dated August 18, 2008
Reply to Office action of April 16, 2008

Entry of the amendment is respectfully solicited.

Respectfully submitted,


Ronald E. Greigg
Registration No. 31,517
Attorney of Record
Customer No. 02119

GREIGG & GREIGG, P.L.L.C.
1423 Powhatan Street
Suite One
Alexandria, VA 22314

Telephone: (703) 838-5500
Facsimile: (703) 838-5554

REG/JAK/ncr
J:\Bosch\R305590\Reply to 4-16-08 OA.wpd